REMARKS

Claims 1-18 are pending in the Application.

The Specification has been amended to correct grammatical and typographical errors.

The Claims have been amended to remove improper multiple dependencies, remove reference numerals, correct antecedent basis errors, and improve the clarity of the claim language.

The Abstract has been amended to remove reference numerals.

Marked-up versions of the Specification, Claims and Abstract are attached herewith in Appendices A, B, and C, respectively.

Favorable consideration of this Application as presently amended is respectfully requested.

No fees are believed to be due for this submission. However, should any fees be required, please charge such fees to Deposit Account No. 10-0447, reference 34645-521USPX (DGN).

Respectfully submitted,

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APPENDIX A

MARKED-UP CHANGES TO THE SPECIFICATION

Figure 1 is an overview of an arrangement for coding and transmitting images. An image 3 of an object is stored in digital form in a digital camera 1, and the image presented on a screen 4. The screen is connected to a computer 2 which is programmed to divide the image 3 into objects or regions, of which a background region R1 and regions of interest R[1]2 and Rn are shown. An image coder 5 in the computer 2 wavelet- transforms the image, while simultaneously compressing the image, and generates a compressed bit stream PS1. An operator at the image screen 4 defines the regions of interest R2 and Rn. The image coder includes means for creating a mask PS2 in accordance with the regions and defines separate parts, or segments, of the bit streams with respect to the corresponding regions R1, R2 and Rn, with the aid of said mask. The definition also enables the regions R1, R2, Rn in the form of said separate segments in the bit stream PS1 to be coded to different degrees of accuracy. A transmitter 6 sends the bit stream, including the definition of the positions and shapes of the regions R2 and Rn to a receiver 7 which is connected to a computer that includes an image decoder 8. The decoder decodes the bit stream PS1 and reproduces the mask definition PS2 and presents the image on an image display screen 9. The accuracy of the background R1 is relatively poor, whereas each of the regions R2 and Rn has respectively a higher degree of accuracy.

2. Create a mask according to step 22, with the aid of information as to how the digitized image 3 shall be divided into the background R1 and the objects R2 and Rn. The techniques described in Swedish Patent Applications SE 9703690-9 and SE 9800088-8 can be used to this end. The mask is created in the transform domain and describes which coefficients are required to reconstruct the different objects or the background. Different segments SG1, SG2 and SGn correspond to the background R1 and the objects R2 and Rn.

3. Use the mask to classify the transform coefficients as belonging to the different segments SG1, SG2, and SGn, according to step 23.

APPENDIX B

MARKED-UP CHANGES TO THE CLAIMS

1. (Amended) A method of transmitting an image [(3)] between a transmitter [(2, 5, 6)] and a receiver [(7, 8)], comprising the steps of:

- dividing the image [(3)] into at least two image regions [(R1, R2, Rn)];
- coding the image regions [(R1, R2, Rn)] into a coded symbol stream [(21)], said coding utilising a symbolic representation and having predetermined accuracy levels in said image regions; [and]
- compressing the coded symbol stream into a compressed bit stream [(PS1, 27),];

[characterised in that the method includes the further steps of:]

- generating [(22)] a definition [(PS2)] of an outer boundary line [(S_i)] of at least one of the image regions [(R2, Rn)];
- transmitting said definition [(PS2)] to the receiver [(7)];
- transmitting the compressed bit stream [(PS1, 27)] to the receiver [(7, 8]; and
- decoding [(33, 34)] in the receiver with the aid of said definition

2. (Amended) The method of claim 1, [characterised in that] <u>wherein</u> two different [of the] image regions [(R2, Rn)] are coded to have said predetermined accuracy levels independently of each other.

3. (Amended) A method of transmitting an image [(3)] between a transmitter [(2, 5, 6)] and a receiver [(7, 8)], comprising the steps of:

- dividing the image [(3)] into at least two image regions [(R1, R2, Rn)];
- coding the image regions [(R1, R2 Rn)] into a coded symbol stream [(21)], said coding utilising a symbolic representation and having predetermined accuracy levels in said image regions; [and]
- compressing the coded symbol stream into a compressed bit stream [(PS1, 27),];

[characterised in that the method includes the further steps of:]

- generating [(22)] a definition [(PS2)] of a mask [(PS2)] for at least one of the image regions [(R2, Rn)], two different [of the] image regions [(R2, Rn)] being encoded to have said predetermined accuracy levels independently of each other;
- transmitting said definition [(PS2)] to the receiver [(7)];
- transmitting the compressed bit stream [(PS1, 27)] to the receiver [(7, 8]; and
- decoding [(33, 34)] in the receiver with the aid of said definition.

4. (Amended) The method of claim 1, 2, or 3, [characterised in that] wherein only predetermined parts of the compressed bit stream [(PS1, 27)] are decoded.

5. (Amended) The method of any of the claims 1, 2, [3, or 4] or 3, [characterised by] further comprising generating a topology description, defining the topological relationship between objects [(O1, O2, O3, O4)] and shapes [S1, S2, S3, S4)] in the image.

6. (Amended) The method of any of the claims 1, 2, [3, or 4] or 3, [characterised by] further comprising generating a shape description, defining the appearance of the closed boundary line [(Si)] of an object [(O1, O2, O3, O4)] in the image.

7. (Amended) The method of any of the claims 1, 2, [3, or 4] or 3, [characterised by] further comprising generating a segment description, defining which transform coefficients that belong to respective segment.

8. (Amended) The method of claim 7, [characterised by] further comprising generating a subset description, defining which transform coefficients that belong to an independently decodable part of a segment.

9. (Amended) The method of [any of the claims 5, 6, 7 or] claim 8, [characterised by] further comprising generating [of] a pointer, defining a position in the bit stream [(27)] for the respective one of the above mentioned descriptions.

10. (Amended) An arrangement for transmitting an image [(3)], comprising:

- a transmitter [(2, 5, 6)] and a receiver [(7, 8)];
- means [(4, 5)] for dividing the image [(3)] into at least two image regions [(R1, R2, Rn)];
- a coding device [(5)] for coding the image regions [(R1, R2, Rn)] into a coded symbol stream, said coding device utilising a symbolic representation and having predetermined accuracy levels in said regions;
- a compressing device for compressing the coded symbol stream into a compressed bit stream [(PS1, 27)]; and
- means in the transmitter [(2, 5, 6)] for transmitting said compressed bit stream [(PS1, 27)] to the receiver [(7, 8), characterised in that the arrangement also includes:];
- means [(5)] for generating [(22)] a definition [(PS2)] of an outer boundary line [(S_i)] of at least one of the image regions [(R2,Rn)];
- means in the transmitter [(2, 5, 6)] for transmitting said definition [(PS2)] to the receiver [(7, 8)]; and
- a decoder [(8)] in the receiver for decoding [(34, 35)] of the compressed bit stream [(PS1, 27)] with the aid of said definition [(PS2)].

11. (Amended) The arrangement of claim 10, [characterised in that] <u>wherein</u> the coding device is arranged to encode [(24)] two different [of the] image regions [(R2, Rn)] to have the predetermined accuracy levels independent of each other.

12. (Amended) An arrangement for transmitting an image [(3)], comprising:

- a transmitter [(2, 5, 6)] and a receiver [(7, 8)];
- means [(4, 5)] for dividing the image [(3)] into at least two image regions [(R1, R2, Rn)]
- a coding device [(5)] for coding the image regions [(R1, R2, Rn)] into a coded symbol stream, said coding device utilising a symbolic representation and having predetermined accuracy levels in said regions;
- a compressing device for compressing the coded symbol stream into a compressed bit stream [(PS1, 27)]; [and]

- means in the transmitter [(2, 5, 6)] for transmitting said compressed bit stream [(PS1, 27)] to the receiver [(7, 8, characterised in that the arrangement also includes:];

- means [(5)] for generating [(22)] a definition [(PS2)] of a mask [(PS2)] for at least one of the image regions [(R2, Rn)], the coding device [(5)] being arranged to encode [(24)] two different of the image regions [(R2, Rn)] to have said predetermined accuracy levels independently of each other;

- means in the transmitter [(2, 5, 6)] for transmitting said definition [(PS2)] to the recevier [(7, 8)]; and

- a decoder [(8)]in the receiver for decoding [(34, 35)] of the compressed bit stream [(PS1, 27)] with the aid of said definition [(PS2)].

13. (Amended) The arrangement of claim 10, 11, or 12, [characterised in that] wherein the decoder [(8)] is arranged to decode only predetermined parts of the compressed bit stream [(PS1, 27)].

14. (Amended) The arrangement of claim 10, 11, or 12 [12 or 13], [characterised in that] wherein the transmitter [(2, 5, 6)] has means for generating a topology description, defining the topological relationship between objects [(O1, O2, O3, O4)] and shapes [(S1, S2, S3, S4)] in the image.

15. (Amended) The arrangement of claim 10, 11, or 12 [12 or 13], [characterised in that] wherein the transmitter [(2, 5, 6)] has means for generating a shape description, defining the appearance of the closed boundary line [(S_i)] of an object [(O1, O2, O3, O4)] in the image.

16. (Amended) The arrangement of claim 10, 11, or 12 [12 or 13], [characterised in that] wherein the transmitter [(2, 5, 6)] has means for generating a segment description, defining which transform coefficients that belong to respective segment.

17. (Amended) The arrangement of claim 16, [characterised in that] wherein the transmitter [(2, 5, 6)] has means for generating a subset description, defining which transform coefficients that belong to an independently decodable part of a segment.

18. (Amended) The arrangement of claim [14, 15, 16 or]17, [characterised in that] wherein the transmitter [(2, 5, 6)] has means for generating a pointer, defining a position in the bit stream [(27)] for the respective one of the above mentioned descriptions.

APPENDIX C

MARKED-UP CHANGES TO THE ABSTRACT

An image [(3)] in digitized form shall be transmitted over a channel between a transmitter and a receiver. The channel has a limited bandwidth and the image has a less important background [(R1)] and also regions of particular importance, i.e. regions of interest [(R2, Rn)]. The image is transformed into transform coefficients and compressed [(21)], and a mask corresponding to the regions [(R1, R2, Rn)] is defined in the transform domain [(22)]. The transform coefficients are classified [(23)] and assigned to different segments [(SG1, SG2, SGn)] in accordance with the mask definition. These segments [(24)] are coded independently of one another to different degrees of accuracy, depending on the importance of corresponding regions [(R1, R2, Rn)] in the image [(3)]. Coding results in sub-bit streams [(25)] which are linked together [(26)] with the image header [(271, 272)] to form a bit stream [(27)], which is sent to the receiver. The receiver decodes the image header and the segment information and reconstructs the mask in the transform domain, including shapes and positions of the regions [(R1, R2, Rn)]. The image is then recreated with the aid of the mask to desired degrees of accuracy in respective regions. It is possible to define several regions [(R2, Rn)] with different degrees of image quality, and only those parts of the image that are of interest need be decoded.